



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**CUSTOMER NO. 35811**

Art Unit : 1615  
Examiner : Barbara P. Badio  
Serial No. : 09/648,304  
Filed : August 25, 2000  
Inventors : Airton Monza da Silveira

Docket No.: 1369-00

Confirmation No.: 6411

: Gilles Ponchel  
: Dominique Duchene  
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Title : NANOPARTICLES COMPRISING AT  
: LEAST ONE POLYMER AND AT LEAST  
: ONE COMPOUND ABLE TO COMPLEX  
: ONE OR MORE ACTIVE INGREDIENTS

Dated: November 4, 2004

**RESPONSE**

**Mail Stop Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Official Action of February 12, 2004, the Applicants filed a Notice of Appeal on August 12, 2004. In lieu of filing an Appeal Brief, the Applicants now submit this substantive Response to the outstanding Official Action.

The Applicants thank the Examiner for the courtesy shown during the telephonic interview on October 20, 2004. During the interview, various passages from the specification, which support the claims as presently worded, were discussed.

Specifically, the following passages of the specification were discussed:

- page 12, line 21 through page 13, line 5;
- page 21, lines 15-22;
- page 23, lines 15-24;
- page 24, lines 18-19;
- page 25, lines 3-10; and
- page 26, lines 15-16.

These passages describe an embodiment of the invention in which a portion of the active ingredient can be in association with the cyclic oligosaccharide at the surface of the nanoparticles. According to that embodiment, another portion of the active ingredient is contained in the nanoparticle matrix network. Together, these two portions are responsible for the bi-phase release properties described in the above passages. Moreover, it was discussed that this embodiment is not inconsistent with the description in the specification at, for example, page 7, where a complexing of the active ingredient with the cyclic oligosaccharide (cyclodextrin) is described.

The attorney for Applicants understood that the Examiner agreed that these passages support the claims as presently worded, and that claim amendments are not necessary to overcome the rejection under the 35 U.S.C. §112 (first paragraph). In this respect, the Examiner requested that the paragraph beginning on line 3 of page 25 be specifically mentioned in this response.

The Applicants acknowledge the rejection under 35 U.S.C. §103 based on the theoretical combination of Chen and Trinh, specifically as identified in Section 5 of the Official Action. The Official Action characterizes the application as requiring that all of the active ingredient be complexed with cyclodextrin. Agreement was reached during the interview that the specification leaves room for the possibility and, in fact, describes an embodiment in which active ingredient is present in a molecular state in the nanoparticle matrix, while cyclic oligosaccharide molecules are localized on the surface. When the claim language, as currently worded, is construed according to its ordinary meaning and consistently with the specification, it is believed that the theoretical combination of Chen and Trinh does not create a combination of elements within the scope of the claims. As explained in more detail in the response to the prior Official Action (response dated October 7, 2003), Chen does not provide any teaching or suggestion of an active ingredient largely contained in a nanoparticle matrix network while cyclic oligosaccharides are localized on the surface. In fact, Chen does not teach cyclodextrins as a complexing agent at all.

Although Trinh relates to a hydrophobic complex between a cyclodextrin and an active ingredient, it does not describe or suggest that a cyclic oligosaccharide could be used in conjunction with a polymer and an active ingredient to form a nanoparticle in which the active ingredient is largely contained in the nanoparticle matrix network and the cyclic oligosaccharide molecules are localized on the surface of the nanoparticles.

For the reasons set in the October 7 Response, the combination of Ramtoola and Trinh also does not render obvious the claims as presently worded. Like Trinh, Ramtoola fails to provide any teaching or suggestion of a nanoparticle in which an active ingredient is contained largely in the nanoparticle matrix and the cyclic oligosaccharides are localized on the surface.

For these reasons, and for the further reason set forth in the October 7 Response, the Applicants respectfully submit that the combination of Chen and Trinh does not render obvious the subject matter of the claims. As such, it is respectfully requested that the rejections and objections be withdrawn. In view of the foregoing, Applicants respectfully submit that the application is now in condition for allowance, which action is respectfully requested.

Respectfully submitted,



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